

Open System of Agile Ground Stations, Phase I

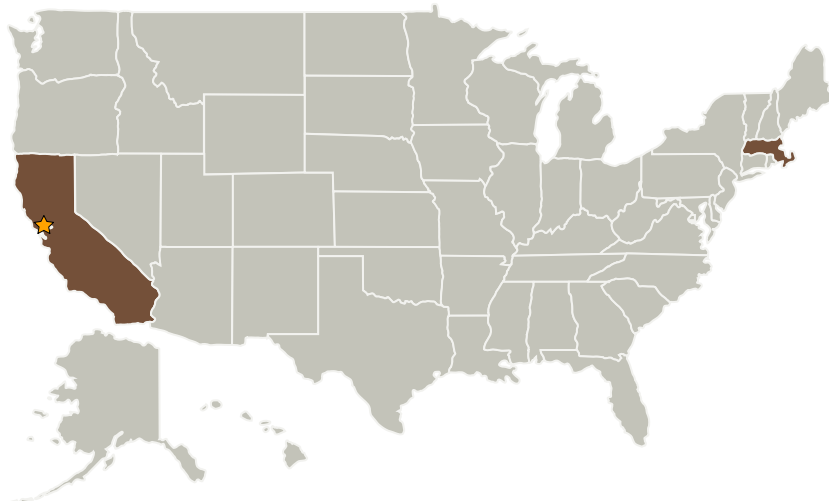
Completed Technology Project (2008 - 2008)



Project Introduction

There is an opportunity to build the HETE-2/TESS network of ground stations into an innovative and powerful Open System of Agile Stations, by developing a low-cost reconfigurable system based on the new commercial Software Designed Radios (SDR), and by establishing an internet based access system. We propose to develop a prototype core of the SDR ground station with open source hardware and software and test the prototype for reliability and performance in realistic space-to-ground link simulations, with real time switch between set of communication parameters. We'll conduct a feasibility/performance trade-off analysis, to assess the possibility of, and plan, the establishment of an experimental/operational Open System of Agile Stations using the HETE-2/TESS system to be completed within the SBIR Phase II program. The expected RF flexibility and internet-based operations of the time-shared stations will enable and facilitate the development and operations of microsat missions.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California
Espace Inc.	Supporting Organization	Industry	Hull, Massachusetts



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

California

Massachusetts

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX07 Exploration Destination Systems
 - └ TX07.3 Mission Operations and Safety
 - └ TX07.3.3 Training